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Aligning workplace pedagogies with learners: What do they need to know?

*Sarojini Choy
Queensland University of Technology
Brisbane
Australia*

Abstract

Recent research and understandings about the significance of work integrated and work based learning endorses the need to include workplace pedagogies as useful epistemological tools. Personal epistemological practices in navigating and mediating between the classroom and the workplace play a significant part yet are not fully acknowledged. The workplace provides various pedagogies that facilitate and support learning. Key dimensions of workplace pedagogies include daily work practices; coaching; other workers; questioning; observing and listening; modelling; and workplace document procedures. Academic learning skills alone are not adequate for optimising the potential of the dimensions of workplace pedagogies.

The role of learners in the process and management of learning in the workplace becomes more salient and requires a set of distinct skills. These skills include: analysing work experiences; learning from others; functioning with incomplete information; contemplating multiple courses of action to decide on the most appropriate action at a given moment; learning about organizational cultures and sub-cultures; expanding learning opportunities by using a range of resources and activities; and understanding various competing interests in the profession. These skills serve well the acquisition of competence to meet the specific needs of particular worksites (situational performance) as well as the wide-ranging needs of similar occupations.

This paper synthesises the key dimensions of workplace pedagogies and their efficacies. Learning skills that support pedagogies in classrooms and the workplace are discussed. Extensive desktop research conducted to prepare this article forms the basis for a project to examine how students conceptualise workplace pedagogies and understand their applications to achieve learning outcomes during workplacement.

Introduction

The need to include workplace pedagogies as useful epistemological tools for students in higher education (Symes & McIntyre, 2000) is driven by recent research and understandings about the significance of the workplace environment in accommodating both theory and practice. Learning experiences in the workplace are essential for effectively preparing a skilled workforce and individuals who can successfully engage in lifelong learning. Renewed understandings about the potential of the workplace as an authentic learning environment have given it visibility and saliency. To enact the intended curriculum prescribed by educational institutions into an experienced curriculum, learners need to draw on and integrate learning opportunities offered by the two sites (classroom and workplace). A range of

pedagogical methods are used for learning through work activities (Fuller & Unwin, 2002). Learners, especially those on workplacement, need to understand what workplace pedagogies are, how they differ from traditional classroom pedagogies, and what skills are needed to exploit pedagogies offered by the workplace.

This paper begins by presenting a case in favour of the workplace as a learning site. The key dimensions of workplace pedagogies and their efficacies for high quality learning are then synthesised. Skills needed for classroom and workplace learning are listed before discussing how these could be used to integrate learning that takes place in both sites. The synthesis in this paper forms essential conceptual knowledge for students going on workplacement. Research (eg. by Entwistle & Peterson, 2004; Vermunt, 1996, 1998; Boulton-Lewis, Marton, Lewis & Wilss, 2000; Morgan & Beaty, 1997; and Purdie & Hattie, 2002) has shown learners' conceptions of knowledge and learning, along with learning orientations, influences the strategies they use and the quality of outcomes they achieve. In other words, their conceptions affect the cognitive processing strategies. This understanding suggests that a comprehensive conceptual knowledge and understanding of workplace pedagogies would enhance their learning.

The situation or context (in this case the workplace) where conceptual knowledge is applied plays an important role in the level of understanding and learning, hence making work environments and activities integral to cognition. Mezirow (1991) explains that the socio-cultural environments provide the cognitive tools (ideas, theories and concepts) to establish frames of reference that shape interpretations, meaning schemes and perspectives, and knowledge formation. It is because knowledge is conceptualised and contextualised within the context of the workplace (Vygotsky, 1978) that it translates into more meaningful outcomes for individual and organisational objectives. Workplace pedagogies play an important role in such conceptualising and contextualising.

The synthesis in this paper forms the basis for a research project that will explore students' conceptions of workplace pedagogies and their efficacies during workplacement. The project is premised on the notion that an appreciation of the workplace pedagogies will lead to constructive conceptions, and influence the strategies and approaches students use to achieve high quality learning outcomes during workplacement.

Workplace as the learning site

The efficacy of workplaces as learning environments is not new. Long before the establishment of universities and colleges learning for work took place in the workplace. Initial research and interest in the workplace as a learning environment concentrated mainly on the workplace as an authentic learning site – to improve schooling. More recent accounts gave insights into “pedagogic and curriculum potentials of workplace and work experiences, not just through a consideration of their physical and social settings, but also on those who engage in and learn through work” (Billett, 2008, p. 4). New understandings about the workplace portray these as powerful sites for professional and vocational learning places where individuals construct and negotiate their work identities, and where they learn about their self and agency at work (Etelapelto, 2008). The benefits of learning in the workplace are many

(see for example, Billett, 1992, 2004a, 2004b, 2009; Billett & Boud, 2001; Fuller & Unwin, 2004; Hager, 2004; Tennant, 2000). Raelin (2008) suggests that learning based in the workplace effects academic, personal and career development; interpersonal and team relationship; professional behaviour; and work projects. His suggestion illustrates a more holistic development as opposed to a predominant academic or intellectual development offered by educational institutions. The workplace provides a context for learners to transform and construct vocationally and socially meaningful knowledge and skills (Brown, 1998; Billett & Boud, 2001). This type of contextual learning is founded on the theory of constructivism (Vygotsky, 1978) because learners make meanings by contextualising the content in terms of work tasks performed in the workplace environment. Learning in the workplace has distributed systems of appropriation, where knowledge is developed and mediated for generalisation within those frameworks (Raelin, 2008).

The essence of contextualisation relies on enculturation to work groups only available in the authentic environments of the workplace because learning in the workplace is participatory in nature as opposed to the knowledge acquisition typical of classroom learning. The concept of enculturation was recognised by Lave and Wenger (1991), who viewed learning as a situated activity that took place through a process of legitimate peripheral participation in the 'sociocultural practices' of the workplace community.

Legitimate peripheral participation provides a way to speak about the relations between newcomers and older-times, and about activities, identities, artefacts, and communities of knowledge and practice...A person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a sociocultural practice (Lave & Wenger, 1991, p.29).

They believed that "... there is no activity that is not situated" (p. 33). Lave and Wenger (1991) view learning from the perspective of the 'whole' person, not just the body of knowledge, rather the "interplay between both where the ... agent, activity, and the world mutually constitute each other" (Lave & Wenger, 1991, p. 33). They go on to explain that learning is only situated in practice, and conclude that learning is "... an integral part of generative social practice in the lived-in world". Their view aligns with Billett's (2009) explanation of the educational worth of learning that takes place in the workplace and the importance of assisting learners develop the capacity to become effective workers.

The influence of the sociocultural experiences on learning formed the basis of Mezirow's (1991) transformational learning theory. He contended that socio-cultural environments provide the cognitive tools (ideas, theories, and concepts etc.) and frames of reference that shape interpretations, meaning schemes and perspectives, and knowledge formation. Mezirow (1991) acknowledges that social and cultural changes are on a continuum therefore learning designers and facilitators need to realise and recognise the transformative nature of learning. The workplace provides access to familiarity and understanding of this continuum in a way that allows learners to capably contextualise and become 'knowledge' workers. Sub-cultures in the workplace generate pluralistic interpretations of knowledge. Therefore workers and learners need to constantly become aware of emerging knowledge and appropriately

interpret these for work. Students on workplacement have the challenge of recognising emerging knowledge and relevance, let alone how to appropriately integrate their study content into the realms of the workplace.

The workplace is not only rich in cognitive tools but offers pedagogies that complement classroom based learning. However, much of the learning designed for students gaining experiential learning in the workplace is based on conventional classroom pedagogies (Major, 2005). Both Tennant (2000) and Major (2005) advocate for appropriate pedagogies and skills sets for learning in the workplace.

Workplace pedagogies

The nature and practice of workplace learning and pedagogy are generally described within a framework of five theoretical models. Fuller and Unwin (2002) discuss these in terms of:

- the transmission model
- acquisition of tacit skills through informal learning
- social learning theory
- competence-based model and
- activity theory.

Sandelands (1998) described learning in the workplace as ‘eclectic pedagogy’ because it is about learning by doing. Duignan (2002) argues that learning based in the workplace will remain ineffective if it is not embedded in an appropriate pedagogy. Hunt (2006) supports this, contending that the full potential of learning in the workplace is only realised by the pedagogy that informs its application. These arguments advocate certain types of pedagogies, skills, responsibilities and agency for learners in order to optimise the potentials for high quality learning in the workplace environment.

Billett (2002), one of the leading workplace learning theorists, identified seven dimensions of workplace pedagogies: daily work practices; coaching; other workers (co-workers, supervisors, guides, technical experts); questioning; observing and listening to others; modelling; and workplace document procedures. Of these, modelling, coaching, questioning, explanations and the use of diagrams form elements of guided learning strategies. How these seven dimensions contribute to learning in the workplace is briefly discussed.

Daily work practices allow learners to apply their knowledge and skills, and practise the same tasks until they reach a stage where those tasks can be done without recourse - from a conscious to unconscious phase. The unconscious phase releases the conscious mind for planning and focusing on other tasks and on constructing new knowledge. Practising daily work activities gives an opportunity to learn from mistakes and enhances the ability to solve problems and increase confidence.

Coaching shows the correct method of performing tasks. The workplace coach/guide is seen as the expert trainer who provides support, corrects mistakes and listens to learners’ issues or concerns. Coaching approaches are known to instil confidence and provide challenges.

Other workers (co-workers, supervisors, guides, technical experts) share their knowledge base, and exchange knowledge and experiences. This enables individuals to learn about different ideas and perspectives. Sharing in a group confirms correct procedures and approaches and also gives confidence. Co-workers also provide technical and moral support.

Questioning provides quick answers. The rationale for the way things are done, and how problems are generally solved in the workplace become clear. Responses to the questions provide clarity for better understanding.

Observing and listening to others demonstrates to learners how to perform a task or solve problems using the correct and accepted procedures. Learners get to know new ways of solving problems, learn new information and access experienced workers' knowledge. By observing other more experienced workers and listening to group discussions (formal – as in meetings, or informal – as during breaks) learners can easily gain a systems level understanding of the workplace.

Modelling is when experts perform a task while the learners observe and build mental models of the task and comprehend the requirements for performance. It demonstrates the sub tasks and the goals for each that then leads to the main task. Modelling illustrates the correct way of solving problems and these are then used as models of practice.

Workplace document procedures provide the prescribed ways and standards for practice. Some documents also provide systems thinking so learners understand how their roles and tasks relate to the overall business of the organisation.

While some of these pedagogies are familiar to classroom situations, their efficacy in the two sites vary. Billett's (1994) research examined the utility of the seven dimensions and how these contributed to the development of propositional, procedural and dispositional knowledge. His data strongly supported the potency of everyday activities, observing and listening, and other workers as sources of the three types of knowledge. Although these three sources are generally informal, Billett's (1994) study also drew attention to the need for some formally structured learning to complement these sources in order to develop conceptual knowledge. He recommends activities that will develop learners' capacity to reflect on experiences in the workplace. Raelin (2008) on the other hand contends that the application of these pedagogies may result more broadly in the development of "meta-abilities such as ingenuity, open mindedness, and self awareness" (p.45) which allow participants to develop the situational-specific skills that they may need. Billett (2008) lists recent research drawing attention to distinct types of learning that better meet work related needs. These include learning from work errors, learning projects, critical reflections, guided learning, expanding learning opportunities, development of workplace curriculum, access and use of secure knowledge, and approaches to foster transfer. He calls for more research to understand the conceptual and procedural goals of workplace learning.

Certainly, considerations of the worth of this kind of learning - conceptions of processes of learning through work and how these experiences might be

organised to secure particular kinds of purposeful learning – are now warranted as important educational goals (Billett, 2008, p. 4).

The development of skills to utilise workplace pedagogies is one area that demands more research.

Skills for workplace learning

While there is much literature on learning in classrooms, knowledge and understanding about learning in the workplace is still developing. Both sets of literature on learning (in educational institutions and the workplace) acknowledge that the educational and workplace environments are indeed different. In the educational institutions learners often have more choice in what they study, a good deal of what they learn is conceptual rather than performance focused and it is often documented in books rather than being related to a particular need or situation. The goals of learning at work are much more immediate and obvious than is the case in most educational settings. Candy and Crebert (1991) identify a number of differences. They suggest that academic learning generally involves propositional knowledge, is decontextualised, encourages eloquent solutions, and tends to be individualistic and competitive. Workplace learning, on the other hand, generally involves procedural knowledge, is contextualised by the nature of the organisation, deals with real pragmatic problems, and often depends on collaborative teamwork.

The types of activities that learners engage in when in the workplace provide authentic experiences because such activities are actual vocational practices. They are structured by the requirements of work rather than by the formal curriculum of the education provider. Successful learning for an experienced curriculum requires more than the processes and approaches familiar to academic learning. According to Billett (2006), the management of the learning process is premised on the richness of each setting (classroom and workplace) as a learning environment, not necessarily the pedagogy or epistemological practices of students. De Jong, Wierstra and Hermanussen (2006) assert that such arrangements are based on students' skills in 'academic' learning in the classroom environment which are premised more on teaching than on learning. Traditional academic learning skills include:

- Learning from instruction (listening, taking notes, summarising, questioning);
- Performing assigned learning tasks (understanding the purpose of a task, following instructions, anticipating the kinds of responses required);
- Relating practical experiences to the material being taught and applying the principles derived from theory and research;
- Basic learning skills such as finding information, organising and categorising thoughts, reviewing material for examinations, developing exam techniques; and
- Learning how to generalise and when to generalise (Tennant, 2000, p. 126-127).

Tennant (2000) argues that academic learning skills, while appropriate to the traditions of academia, are less applicable to learning in the workplace where students' roles in the process and management of learning becomes more salient. He

stresses that these are not sufficient and goes on to suggest additional skills that are essential for learning in the workplace:

- skills in analysing work experiences;
- learning from others;
- functioning with incomplete information;
- contemplating multiple courses of action to decide on the most appropriate action at a given moment;
- learning about organizational cultures and sub-cultures;
- expanding learning opportunities by using a range of resources and activities;
- and
- understanding various competing interests in the profession.

These skills need to be interrogated and are open to interpretations. They symbolize the ‘situatedness’ of the learners, the context in which learning takes place and engagement in communities of practice (Lave & Wenger, 1991). This adds complexities where learning from workplace experiences leads to different renderings and has to be formalised for academic purposes. There is call for more research to integrate experiences gained from the two sites (classroom and workplace) in ways that acknowledge the particular contributions of each (Billett, 2008). Furthermore, workplaces need to be acknowledged as a learning site in its own right, not just to augment or extend the learning that takes place in classrooms. This is critical when there is increasing demand from students, industry and governments for better alignment of the learning curriculum to real work tasks (Symes & McIntyre, 2000; Tennant, 2000). Tennant (2000) explains that

... contemporary workforce needs to be clever, adaptable and flexible. Such a workforce is one which can quickly and willingly apply existing knowledge and skills to new situations, and one which is prepared to acquire new learning as the circumstances warrant, and capable of doing so. There is an expectation that both formal education and workplace training should produce the kind of learning that allows such adaptability and flexibility (p.123).

Furthermore, the need for continuous learning to meet the changing and emerging demands of work necessitates greater recognition and prevalence of learning on site. A study by Hughes, Moore and Bailey (1999) showed that learning experiences in the workplace could reinforce academic learning, especially if there is intentional instructor intervention connecting the two venues. Research on areas that Billett (2008, p.11) campaigns for (eg. on how concepts of pedagogy, curriculum and epistemology can be used to helpfully inform processes of learning through work) is expected to facilitate better connection between the two sites.

Tennant (2000) posits that interest in specific skills for workplace learning (eg. those listed above) is symptomatic of a more general shift from ‘education’ to ‘learning’. It highlights the *teacher-learner relationship* and endorses the application of adult learning principles (Knowles, 1998) – awarding more visibility to the learner controlled focus more apparent. The shift also exemplifies a reconfiguration of a role from being a teacher to a facilitator. Moreover, emphasis is placed upon the learner as a *producer of knowledge*, suggesting that learners are more empowered. For learners, there is also shifting interplay between their roles as producers of knowledge,

consumers of learning, and performers of skills and attitudes (Tennant, 2000). The facilitator supports these learner roles by being an “arbiter of what constitutes worthy knowledge, a guide who assists learners to ‘learn from experience’, a measurement specialist who monitors performance, a facilitator who processes the concerns and interests of the learners, or a critical commentator who addresses issues of power and authority” (Tennant, 2000, p. 129).

The learning skills set discussed earlier serve well the acquisition of competence to meet the specific needs of particular worksites (situational performance) as well as the wide-ranging needs of similar occupations. Billett (2001) asserts that situational performance along with adaptability of practice are essential, and competence for both can only be gained from engaging in the workplace setting. In the workplace, personal epistemological practices in navigating and mediating between the two distinct learning sites play a significant part, yet are not fully acknowledged (Billett, 2004b). Personal factors, histories, subjectivities and agency influence students’ approaches to negotiating, conceptualizing, and constructing meanings and perspectives from learning experiences. The application of skills for academic or workplace learning contributes to more substantive outcomes from learning in the workplace. Raelin (2008) groups these into four categories: effects on the self, effects on interpersonal and team relationships, effects on professional behaviour, and effects on projects. The learners’ understanding of workplace pedagogies forms an essential foundation to enhance their agency in initiating and managing learning in the workplace.

Summary

There is continued search for ways to enhance learning and develop lifelong learners who can transfer skills within and across industry. The workplace offers a setting for situated cognition where the learning content is contextualized in terms of work tasks within the socio-cultural environment. Time constraints on students on temporary attachments to workplaces for experiential learning, limits the level of enculturation to optimize learning. Furthermore, because access to learning opportunities is often contested and not equally distributed or afforded, students need to appreciate the pedagogical dynamics within the workplace and become active agents who mediate between the elements in the workplace. To complement their academic skills, they also need skills in analysing their work experience, learning from others, functioning with limited facts, contemplating courses of action to decide on most appropriate options, learning about organisational cultures and sub-cultures, expanding learning opportunities by using a range of resources and activities, and understanding various competing interests in the profession. Students need to not only understand the various pedagogies available in the workplace, but know which is most appropriate for which type of learning or when to appropriately access these. Each dimension of workplace pedagogy (daily work practices, coaching, other workers, questioning, observing and listening to others, modelling, and workplace document procedures) is appropriate for its own type of learning and may not be available or afforded at all times. Considering the importance of the interplay between the workplace pedagogies and various dimensions (eg. learning spaces, workplace affordances and student’s agentic roles) that influence learning, it is essential for students on workplacement to understand key concepts of workplace pedagogies and ways to access and utilise these for learning. The synthesis in this paper provides some knowledge about these.

The research premised on the review in this paper is expected to shed some light on students' conceptions of workplace pedagogies, the effectiveness and usefulness of the dimensions of workplace pedagogies and the utility of workplace learning skills in achieving learning outcomes. Analysis of data from the research will inform pedagogical designs that will appropriately harness the learning opportunities and pedagogies available in the workplace. The findings will inform how best to prepare students before, during and after workplacement for a smoother transition between classroom and workplace learning.

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